FOR MYSORE STATE

52.

Pub (C. Pandit) (1953) Department.

M/s SERIES.

G.O. NO. 997

Dated 14. 4. 53

Passed
8/4/53

G. O at pt 7 & 8

[Despatch Abstract.]

Communications Project — Kanara Dt — Communications — Estimates for the Construction of Culverts on Kadangal Kundumbur Road — in Barkambedy Village of Coorg Taluk — Sanctioned.

Ref.C.No.691/53-B. Office of the Project Executive Officer,
South Kanara, Mangalore, Dt. 28-2-1953

SPECIAL OFFICER. (COMMUNITY PROJECTS.)
5 MAR 1953
PUBLIC (C. P.) DEPARTMENT.

From

Sri G.Simhadri, B.A.,
Project Executive Officer,
Mangalore.

To

4250

The Director of Community Projects
and Ex-Officio Secretary to Govt.,
Fort St.George, Madras 9.

.....

Sir,

COMMUNITY PROJECTS - South Kanara - Block I - Communication Kadangal to Kudumbur road in Baikampady village - Estimate Sanction - Requested.

*****

There is a foot-path known as the Kadangal - Kudumbur foot-path in Baikampady village which starts near Mile 7/3 of the Mangalore - Byndoor coast road and runs eastwards to a length of about 1½ miles. There are a large number of houses at the eastern extremity of this foot-path besides more than 100 houses situated on either side of it. It also leads to a mosque and a temple. As the village elementary school is also situated at the eastern extremity of the foot-path, all the school-going children of the village have to pass through it daily. The foot-path is not wide enough for any vehicular traffic. The proposal is to widen the foot-path to a uniform width of 18'-0" to a length of one mile and to construct two hume pipe culverts and a hume pipe drain. If this is done, the road will benefit the villagers residing in the locality, the persons attending the mosque and the temple and also the children attending the school. With the formation of the road, the villagers who are mostly agriculturists, will be enabled to transport their agricultural produce to the towns by means of carts and other vehicles. The proposal is therefore a useful one. The work was proposed by the firka committee and approved by the Project Advisory Committee. It is included in the work programme for 1952-53. As the villagers were eager to take up the road, work was commenced on the Republic Day and it is in progress. It was inspected by the Collector on 29-1-1953 and the Director of Community Projects on 15-2-1953.

2. An estimate for the road with the culverts has been got prepared. The total cost of the work is Rs. 5,900/- The earth-work alone costs Rs. 1,150/- and the balance is for the two hume pipe culverts and one hume pipe drain. The villagers are forming the road at their own cost. They have also gifted away land valued at Rs. 1,500/- besides dismantling mud-walls and removal of trees for the purpose of widening the road. The two Hume pipe culverts and one hume pipe drain costing Rs. 4,750/- have to be constructed at the cost of the Community Project. The contribution of the villagers is valued at Rs. 1,150/- labour, 1,500/- land plus cost of mud-walls, trees etc. coming to a total of Rs. 3,000/- I therefore, recommend that the estimate may be sanctioned for Rs. 4,750/- As the villagers are anxious to have the culverts completed before the onset of the monsoons, I request that early orders may be passed.

PROJECT EXECUTIVE OFFICER.

Enclosure -
Estimate in duplicate.

By Regd Parcels

Public (C.P. Audit) Deptt:

Memo: No. 4250-Public (C.P.Audit) 53-1, dated 19-3-53.

Sub:- Community Projects- South Kanara Dist.- Communications- Kadangal to Kuntinbur road in Baikampady village of Mangalore Taluk - Estimate -

from PL. 11/3/53.

Ref:- From the P.E.O., Mangalore - C.No. 691/53-B dated 28-2-53.

The estimate for road and culverts received with the ~~P.E.O's~~ letter cited, is herewith returned with the following remarks:-

1. Hume Pipe Culvert 2'-6" dia: at 0/0+100'.

The Cement Concrete (1:3:6) bed for the pipe should be omitted. The pipe may be laid on well compacted soil to prevent uneven settlement and masonry head and tail walls ~~provided~~ in addition to the rough stone revetment proposed for the earth slopes

2. Hume Pipe Culvert with 4 Nos pipes of 2'-6" dia: each at 0/0+135'.

In the hydraulic calculations, particulars of "Full Supply Depth" & "Full Supply Level" are denoted as if the stream is a regulated channel. These particulars will not come in for a stream. ~~Only~~ Only the maximum flood level and maximum flood discharge need be considered. It is presumed that the bed fall of 1 in 55·10, ~~taken for the stream~~ (the stream taken as) is determined by levels along the deep bed course. The velocity of flow at the maximum flood level conditions assumed, comes to 1·8 ft per second as against 2·4 ft per second and consequently the flood discharge is reduced to 130 cusecs requiring a vent way of only 13·7 Sq. ft. Hence a culvert of 3 pipes of 2'-6" dia: each in a row will do against 4 pipes of the

same diameter proposed. The pipes may be packed with gravel all round, instead of with cement concrete. ~~as proposed~~. The wheel guard at the edges may be replaced by a low parapet wall. In the drawings submitted the "plan" and the "section on C.D. do not tally. ~~In fact~~ The pilaster at the downstream side is shown as differently located in the view obtaining in "section on C.D." This is presumably due to marking the section of the Culvert in Cross-Section No. 7, taken ~~at~~ on the bank of stream. The correct cross-section No. 6 should be selected for marking the culvert section. The ground levels at these two Cross-Sections should also be noted in the "plan" to verify the ~~sufficiency~~ adequacy of the height of the pilasters and the height of revetment proposed. The dotted and firm lines shown as connecting the retaining wall with the pilasters both in the "plan" and in the "Section" of the Culverts indicate splayed wings but the estimate makes no provision for the same. The significance of these lines should be explained. The Scale should read 1/50 for both "plan" and "Section on C.D." and 1/200 Natural for the "Longitudinal Section" and not as now noted.

Hume Pipe Culverts 1'-0" dia: 4 Nos.

The same remarks as for the Culvert of 2'-6" diameter at 0/0+100' are applicable to all these Culverts also. A typical longitudinal section of Culvert should be furnished.

The P.E.O. should revise the plans and estimates in the light of the foregoing remarks and resubmit very early.

C

Dwd (2'-6" by P.D.)
By (By Engineering Asst.)
20/12/52
To
The P.E.O.
Mangalore
(with enclosures)
(RD 2 weeks)

6466 1/5

Ref.C.No.691/53-B. Office of the Project Executive Officer, South Kanara, Mangalore, Dt. 31-3-53.

ACCOUNTS & SPECIAL OFFICER, (COMMUNITY PROJECTS.) 3 APR 1953 PUBLIC WORKS DEPARTMENT

From

Sri G.Simhadri, B.A.,
Project Executive Officer,
Mangalore.

To

The Director of Community Projects and Ex-Officio Secretary to Govt., Fort St.George, Madras-9.

.....

Sir,

Received from C/Tion 4.4.53 p:1 C.F. 4/4/53 pp: 3-4 C.F.

COMMUNITY PROJECTS - South Kanara - Block I - Communications Kadangal to Kudumbur Road in Baikampady Village - Revised estimate - Submitted.

..

Ref: (1) This Office Ref.C.No.691/53-B dated 28-2-53.
and
(2) Govt.Memo.No. 4250 Pub.(C.P.Audit)/53-1 dated 19-3-1953.

******

The estimate has been revisdd in the light of the instructi contained in the Government Memorandum cited second. It is resubmitted herewith.

2. The total estimate now comes to Rs. 5,630/- Out of this amount, Rs. 1,150/- is for the earth work and the balance i.e.Rs. 4,480/ for the culverts. In the circumstances reported in my reference cited first, I request that the estimate may be sanctioned for Rs. 4,480/-

PROJECT EXECUTIVE OFFICER. 31-3

Enclosure: Estimate in duplicate.

31/3

Public (C.P. Audit) Dept.

[C.No. 4250/53
6466.]

G.O.Ms.No. 997, dated 14-4-53.

Abstract:- Community Projects - South Kanara Dist. - Communications — Estimate for the Construction of 6 Culverts on the Kadangal - Kudumbur road in Baikampady village of Mangalore Taluk - Sanctioned. -

Read:- ~~From the P.E.O., Mangalore, Ref. C. No. 691/53-B, dated 20-2-53.~~

~~Memo No. 4250 Public (C.P. Audit)/53-1, dated 19-3-53.~~

From the P.E.O., Mangalore., Ref. C. No. 691/53-B, dated 31-3-53.

Order:-

Sanction is accorded to an expenditure not exceeding Rs 4420/- (Rupees four thousand four hundred and twenty-) only - for the construction of 6 Culverts as detailed below, on the Kadangal - Kudumbur road in Baikampady village of Mangalore Taluk, now being laid by the villagers at their own cost.

S.No.	Milage of road	Details of Culvert	Estimated cost.
1.	0. Mile - 0. Furlong - 100 Feet.	2'-6" diameter Hume Pipe Culvert	Rs. 500.
2.	0 " - 0 " - 325 "	2'-6" diameter 4. Hume Pipe Culvert.	Rs 2950.
3.	0 " 3 " 0 "	1'-0" diameter pipe Culvert.	Rs. 970
4.	0 " 3 " 436 "	——— do ———	
5.	0 " 5 " 186 "	——— do ———	
6.	0 " 5 " 436 "	——— do ———	
			Rs. 4420/-

2/ The expenditure should be debited to "63-B. Community Development Projects - II Community Projects — f. Communications - (Culverts)".

8

3. The P.E.O., Mangalore, should get the works executed according to the approved plans and estimates herewith returned and submit the Completion report to Govt., in due course.

To. (By Registered post)
The P.E.O., Mangalore
(with enclosures).
A.G. Madras.
Copy to Pub (C.P. Accounts) Deptt.
Public (C.P. Technical) Deptt.
S.F. – Read copy & Put up for B/F
C.B. 10 Weeks.

Entered in C.B.

Public (Community Projects-Audit) Dept

Memorandum No. 19946 Public (C.P.Audit)/53-1 d/- 26.6.53

Sub:- Community Projects - South Kanara Dt - Communications
Estimates for the Construction of Culverts on Kadangal -
Kundumbur Road in Bankambady village - Completion report-

Ref:- G.O.No.Ms. 997 Public (C.P.) Department, dt 14.4.53

Reminder No 26/6

The Project Executive Officer, Mangalore is requested to expedite the submission of the completion report called for in the Government Order cited.

Rz 23/6/53

To the P.E.O., Mangalore

(R.D. ~~2 weeks~~ 1 month)

26/6/53 S 26/6/53.

~~Note. P.T.O.~~

1/2

Note.-

The draft memo. put up above may be approved, as the completion report due from the P.E.O., has not been received yet.

Ref.C.No.691/53-B.

21253

Project Executive Office, S.Kanara,
Mangalore, d/- 6th July 1953.

From

Sri G.Simhadri, B.A.,
Project Executive Officer,
Mangalore.

To

The Director of Community Projects
and Ex-Officio Secretary to Govt.,
Fort St.George, Madras 9.

.....

Sir,

Sub: Community Projects - South Kanara District - Communications - Estimates for the construction of culverts on the Kadangal Kudumbur Road in Baikampady - Completion report.

...

Ref: Government Memorandum No. 19946, Public (C.P.Audit)/53-1 d/- 26-6-1953.

*****

The 2'-6" diameter 4 Hupe pipe culvert at 0/0 +325 is nearing completion and only the Hume Pipes remain to be fitted. It will be completed as soon as the hume pipes for which orders have already been placed, are received. The remaining culverts, for which also hume pipes are required, will be completed on receipt of the required hume pipes. The work will be completed as expeditiously as possible and the completion report submitted.

T/6.7.

PROJECT EXECUTIVE OFFICER.

Ref.C.No.691/53. Project Executive Officer, S.K.,
Mangalore, dated 4-5-1954.

From
Sri.H.Narasimha,
Project Executive Officer,
Mangalore.

To
The Director of Community Projects
& Ex.Officio Addl. Secretary to
Govt. Agrl.C.P.Dept.,
MADRAS.

Sir,

COMMUNITY PROJECTS - S.Kanara - Communications - Construction of culverts on the Kadangal-Kudumbur road, in Baikampady village - Mangalore Taluk - Completion Report - Submitted.

I submit herewith the completion report, with plan, in respect of the above work, sanctioned in G.O.Ms.No.997 Public (C.P.) Department dated 14-4-1953.

Yours faithfully,

Project Executive Officer

Encl: Completion report and plan.

Copy to the Accountant - General, Madras (with a copy of completion report.)

JC/7-5-54.

Public (C.P. Audit) Dept.

[C. No. 7250/53]

Sub:- Community Projects - South Kanara Dist. - Communications - Kadangal to Kudumbur road in Baikampady village of Mangalore Taluk - Estimate.

Ref: From the P.E.O., Mangalore C. No. 691/53-B. dated 18-2-53.

Please see the above letter from the P.E.O., Mangalore. The estimate for Rs 5900/- submitted by the P.E.O. comprises of:-

(i)	Formation of earthen road 1 M. - 3 Fur - 134 Ft.	Rs 1150/-	
(ii)	Construction of 2'-6" Dia: Hume Pipe culvert	Rs 500/-	
(iii)	" " with 4 pipes 2'-6" dia: Hume pipe culverts	Rs 3400/-	Rs 4750/-
(iv)	" " 4 Nos 1'-0" dia: Hume pipe culverts	Rs 850/-	
		Rs 5900/-	

The P.E.O., requests sanction for items (ii), (iii) and (iv) above, costing Rs 4750/-. The road work under item (i) above, is under execution already by the villagers themselves. Beside forming the road, the villagers have gifted away land valued at Rs 1500/- and also removed mud-walls and trees for the purposes of widening the road. Thus, the contribution by the villagers is reckoned at Rs 1,150/- (road) + Rs 1500/- (land) + cost of removal of mud-walls & trees or Rs 3000/- in all.

The estimates for the culverts have been scrutinised and call for the following remarks:

Hume Pipe Culvert 2'-6" dia at 0/0+100' - (Rs 500/-)

This culvert is proposed to carry the drainage of the side drain of the Trunk road across the proposed road at the off-take. Here the 2'-6" diameter pipe as adopted for the culvert is presumed to be according to the size of the side drain of the Trunk road

Regarding the Culvert design, the cement concrete bed for the pipe may be omitted ~~in economic sections~~, and the pipe laid on well compacted soil to prevent uneven settlement and masonry head and tail walls provided in addition to the roughstone revetment proposed for the earth slopes. This modification in the design of the Culvert will be pointed out to the P.E.O., for revising the plan and estimate.

Hume Pipe Culvert with 4 Nos pipes of 2'-6" dia each (Rs 3400/-)

This Culvert is proposed at 0/+335 ft for a stream Crossing. In the hydraulic calculations, particulars of "Full Supply Depth" & "Full Supply Level" are denoted as if the stream is a regulated channel. These particulars do not come in. Only the maximum flood level and the maximum flood discharge should be considered for designing the Culvert. With a bed fall of 1 in 5510 for the stream (presumably determined by levels along the deep bed) and a bed-width of 16'-0", the velocity of flow at maximum flood level conditions works out to only 1.8 ft. per second as against 2.4 ft per second, with the result that the flood discharge is reduced to 130 Cusecs requiring a ventway of only 13.7 Sq.ft. Hence a Culvert with 3 pipes of 2'-6" dia. each in a row, will do, against 4 pipes proposed. Again, the packing with cement concrete all round the pipes may be omitted to economise cost and gravel packing substituted with care to prevent uneven settlement. Also, the wheel guard at the edges may be replaced by low parapet wall. These modifications will be pointed out to the P.E.O. and he will be asked to revise the plan and estimate accordingly, and also to clarify certain details made out in the drawing of the Culvert sent by him.

Hume Pipe Culverts 1'-0" diameter - 4 Nos (Rs 800/-)

The same remarks as at (A) above will

for these culverts also, the P.E.O., will be asked to revise the estimate furnishing a typical longitudinal section of the culvert.

A draft memo: returning the estimate for revision in the light of the foregoing remarks is submitted for approval —

B
12-3-53

C
19-3-53

Same as memo No. 4250 Pur C.C.P. Mgalore) 53-1 SI 19-3-53

Receipt: P. E.O South Kanara. No. 691. S 3-53 21.3.53

Please see the letter from the P.E.O., Mangalore, on p: 5 C.F. in reply to the Memo: on pp 3-1 C.F. The estimates for the culverts have been revised now by the P.E.O. as explained below:-

Hume Pipe Culvert 2'-6" dia: at 0/0+100'.

As instructed, the cement concrete bed for the pipe has been omitted and the pipe is proposed to be laid on well-compacted soil with masonry head and tail walls constructed at the infall and outfall of the pipe. The estimated cost for this culvert comes to Rs 500/- and is in order.

Hume Pipe culvert with 4 pipes of 2'-6" dia: each at 0/0+325'.

p: 3 C.F. | 130 cusecs,

It was pointed out to the P.E.O., that as the flood discharge of the stream correctly works out to only this culvert need be of 3 pipes of 2'-6" dia: each instead of 4 pipes of the same diameter proposed by him. In reply to this, it is now stated that though the flood discharge is only 130 cusecs, correctly, an additional 30 to 40 cusecs may have to be taken as a safety measure due to backing of water during heavy floods from the river Gurpur to the stream

The Divisional Engineer (Highways) who had inspected this site previously, is said to have also remarked that 4 pipes of 2'-6" dia: each must be provided as ventway for this culvert at this stream Crossing. In these circumstances, 4 pipes of 2'-6" dia: each may be allowed for the Culvert as a safety measure. As instructed, the pipes are now proposed to be packed with gravel all round, instead of with cement concrete and the cut-stone wheel guard at the edges replaced by a low parapet wall. The plan and estimate as revised above, have been scrutinised and the amount of the estimate has been altered from Rs 3000/- to Rs 2950/- due to slight corrections in the details of work.

Hume Pipe Culverts 1'-0" dia: 4 Numbers.

As instructed, the estimate for all these 4 Culverts has been revised by the P.E.O., omitting the cement concrete bed and providing masonry head and tail walls. A typical longitudinal section of Culvert has also been furnished as asked for. The estimate has been scrutinised and its amount altered from Rs. 980/- to Rs 970/-

Note. C
Entered in the register of Savings.
2-12-42
S/A.

The total estimated cost for all the 6 Culverts comes to: Rs 4420/- as detailed below:

	Rs
1. Hume Pipe Culvert 2'-6" dia: at 0/0+100'. . .	500.
2. Hume Pipe Culvert with 4 pipes of 2'-6" dia at 0/0+325'	2950.
3. Hume Pipe Culverts 1'-0" dia: 4 Numbers	970.
Total — Rs	4420/-

The P.E.O., requests sanction for Rs 4420/- for the Culverts. He has represented also that the villagers are forming the road (estimated at Rs 1150/-) at their own cost, besides having gifted away land valued at Rs 1500/-, and removed trees and mud walls for the purposes of widening the road. Considering the people's own effort to the extent

p: 1 C.F.

extent as indicated above, the estimate for the culverts (G Numbers) may be sanctioned for Rs 1.420/- as requested by the P.E.O..

This work has been approved by the Project Advisory Committee and the P.E.O., has reported that it is also included in the work programme for 1952-53.

P.I.C.F.

The project estimate provides for 150 culverts in all the 3 blocks of this area, at a total expenditure of Rs 1.66 lakhs; or 50 culverts for each block at Rs 0.553 lakh. Sanction has been accorded for the construction of 8 culverts so far, at an anticipated expenditure of Rs 7380/-.

This estimate may be sanctioned. Subject to orders, a draft order sanctioning the estimate is submitted for approval. The sanction endorsement on the two copies of the estimate may also be signed -

Kept below ||

8/4/53 Un/4 — G/9/4/D — 9/4/53 Dy.

9/4/53

for 7-8 Cf

[Issued as G.O.Ms No. 997/ 14.4.53]

EXTRACT FROM DAILY DAK SHEET.

Serial No.	Date of entry in this register.	Subject	Old current No.	No. & date of Govt. Order etc. authorising the entry.	Date when further action is to be taken	No. & date of new current
(1)	(2)	(3)	(4)	(5)	(6)	(7)
31	16-4-'53	C.Ps. - South Kanara Dt. - Communications - Estimates for the construction of culverts on Kadangal - Kudumbur Road in Baikambady village of Mangalore taluk - Sanctioned.	4250/53	G.O.Ms.Pub. (C.P.)997, d/- 14-4-'53.	23-6-'53.	

Note.- The completion report due from the I.S.O. Mangalore in respect of the above work has not been received. A draft calling for the report is put up below for approval.

2). The delay in putting up this is due to the fact that the G.O. MS 997 is now readily available to be put up. So must be traced & put up

Rshed as Revn No. 19146 Public (C.P. Misl) 53-13 26/53

Ref: From the P.S.o Mangalore Ref. C No. 691.53 B dt 6.7.53

To Ro Fill. 1.10.53

Agri D VIII

(13)

From the P.E.O. Mangalore C.No 691/53 dated 4.5.54.

Please see the letter from the P.E.O., Mangalore, at p: 13/C. f. He has submitted the Completion report and plans for the work of Constructing Culverts on the Kadangal-Kudumbur Road in Baikampady village, sanctioned in G.O.Ms.No 997-Public (C.P.) dated 14-4-53. The expenditure sanctioned was Rs 4420/- at full estimated cost. The amount actually spent from C.P. Funds, as per the Completion report, is Rs 4262/4/- with a saving of Rs 157/12/-. The differences between the estimate provision and actuals of work as executed have all been satisfactorily explained in the Completion report. The provision under petty supervision charges has not been utilised. The Completion report has been checked, and it is in order.

p: 7 of (B)

This work on Culverts was sanctioned at full cost, since the beneficiaries were to form the road at their own cost, besides donating the required land valued at Rs 1500/-.

The P.E.O., may therefore be asked to say whether the villagers have actually done

done work to the value of Rs 1150/- on the road as foreseen. This information may be necessary to keep on record the approximate assessment of contribution actually given.

A draft memo: is submitted for approval –

17/5/54. Assume that the work hereon done by the beneficiaries as otherwise the Causeways will not be useful to the

18/5/M.

The papers may be lodged and filed added to the G.O. at (B).

18/5/54. DCP may see please

18/M

D.E.P.

PROJECT EXECUTIVE OFFICER Mangalore

Name of work:- "Construction of culverts on the Kadampal - Kudumunbur road in Bikampady Village in Mangalore Taluk" 0/0 + 3 1/2"; 2/6 2'-6" dia culvert at 0/0+100' & 2'-6" dia H.P. culverts at 0/3; 0/3+436'; 0/5+136'; 0/5+436' as sanctioned in G.O.-H's No. 497 PWD dt. 14/2/[illegible]

Community Project DEPARTMENT. South Kanara

Completion Report.

No. of the Estimate.	Date of Commencement.	Date of Completion.	Date of Passing by the	Particulars.	As estimated. Quantity.	Rate.	Amount.	As executed. Quantity.	Rate.	Amount.	Difference (excess to be shown in red ink). Quantity.	Rate.	Amount.	Explanation of differences
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
						RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	
				B.F	- -	- -	4420 0 0		- -	4262 4 0	- -	- -	157 12 0	
						Difference	157 12 0							

1 Net value of work done

Amount to be spent [illegible]

Amount actually spent [illegible]

Contribution due by [illegible]

Total ..	4420 0 0	157-12-0
Amount paid ..	4262 4 0	
Amount of 15 per cent deductions withheld ..	Nil	Savings.

P.T.R. Ramachandra
Designation
Sub. Mangalore C.P. Scheme
19/4/54

Certified that I have examined the work from time to time whilst in progress and that it has been executed in a substantial and satisfactory manner as regards materials and workmanship and that it corresponds with the exemption noted above with the sanctioned plan and estimate.

Dated 19 .

H. Narasimha 4/5/54
Project Executive Officer,
Mangalore.

Dated 19 .

K. Jayalakshmi 4/5/54 Asst. Engr.

L. A. Gaffoor 20/4/54 AE (CP)
Designation.

2-6" dia 4. Humes pipe culverts at 0/0 + 325'

I a) Earthwork excavating & depositing on bank within initial lead & lift Complying with Standard Specification in light black cotton, Sandy loam, dry silt & ordinary soil S.S. 20 B. (Vide P 38 of MBK V)	L.S		50	0	0										50	0	0	Provided for the formation excavation
b) Earthwork excavating & depositing on bank within initial lead & lift Complying with standard specification in hard stiff clay, stiff black cotton, hard red earths etc S.S. 20 B. (Vide P. 38 of MBK V)																		Excess is due to the approach road which has been provided as L.S. in the estimate
		9473	cft.	18	14	0	178	13	0	9473	cft.	18	14	0	178	13	0	-do-
c) Earthwork excavating & depositing on bank within initial lead & lift Complying with standard specification in hard gravelly soil S.S. 20 B. (Vide P. 38 of MBK V)		1569	cft.	21	6	0	33	9	0	1569	cft.	21	6	0	33	9	0	-do-
d) Extra for every additional 10 yds lead or part thereof over the initial lead (Vide P 38 of MBK V		1566	cft.	1	2	0	1	12	0	1566	cft.	1	2	0	1	12	0	-do-
e) Extra for every additional 2 lead or part thereof over the initial lead (Vide P. 39 of MBK V		25207	cft.	2	4	0	56	11	0	25207	cft.	2	4	0	56	11	0	-do-
II Cement Concrete 1:3:6 in hard broken stone 1½" Single (Vide P 39 of MBK V		250	cft.	139	0	0	348	0	0	250	cft.	139	0	0	347	8	0	0 8 0 Difference due to rounding
III Random rubble masonry in C.M 1:4 (Vide P. 39 of MBK V		830	cft.	114	0	0	946	0	0	947	cft.	114	0	0	1079	9	0	117 cft. 114 0 0 133 9 0 Found essential during the execution of work
IV Supplying & fixing of Side of Humes pipes of 2-6" dia including the Nos of Collars (Vide P. 39 of MBK V		48	RM.	13	12	0	660	0	0	48	RM.	13	12	0	660	0	0	
V Gravel packing on top of pipes (Vide P. 39 of MBK V)		500	cft.	9	6	0	47	0	0	488	cft.	9	6	0	45	12	0	12 cft. 9 6 0 1 4 0 Found sufficient during the execution
VI Plastering with C.M 1:4 (Vide P. 39 of MBK V		460	sq ft.	16	14	0	78	0	0	397	sq ft.	16	14	0	67	0	0	635 sq ft. 16 14 0 11 0 0 -do-
VII Rough stone dry packing for aprons & revetments (Vide P. 39 of MBK V		350	cft.	58	6	0	204	0	0	296	cft.	58	6	0	172	13	0	54 cft. 58 6 0 31 8 0 -do-
VIII For unforseen items such as making the approach road etc taken for wheel guards etc	L.S.				479	0	0								L.S.			479 0 0 Provided as an L.S. for the approach road.
IX For Contingencies & petty Supervision	L.S.				1138	0	0								L.S.			138 0 0 Petty Supervision not taken up.

2-6" dia Humes pipe culverts at 0/0 + 100'

X Earthwork excavating & depositing on bank within initial lead & lift Complying with Standard Specification No 20 B. in hard gravelly Soil (Vide P. 40 of MBK V	L.S		10	0	0	25	cft.	21	6	0	0	9	0	21	6	0	9 7 0 Found sufficient.
XI Cement Concrete 1:3:6 in hard broken stone 1½" Single (Vide P. 40 of MBK V		15	cft.	139	0	0	21	0	0	13	cft.	139	0	0	18	1	0	2 cft. 139 0 0 2 15 0 -do-
	C.O.				2981	0	0								2953	4	0	695 9 0
	Difference				2953	4	0											723 5 0
					27	12	0											27 12 0

5/3-3.

3/sec.

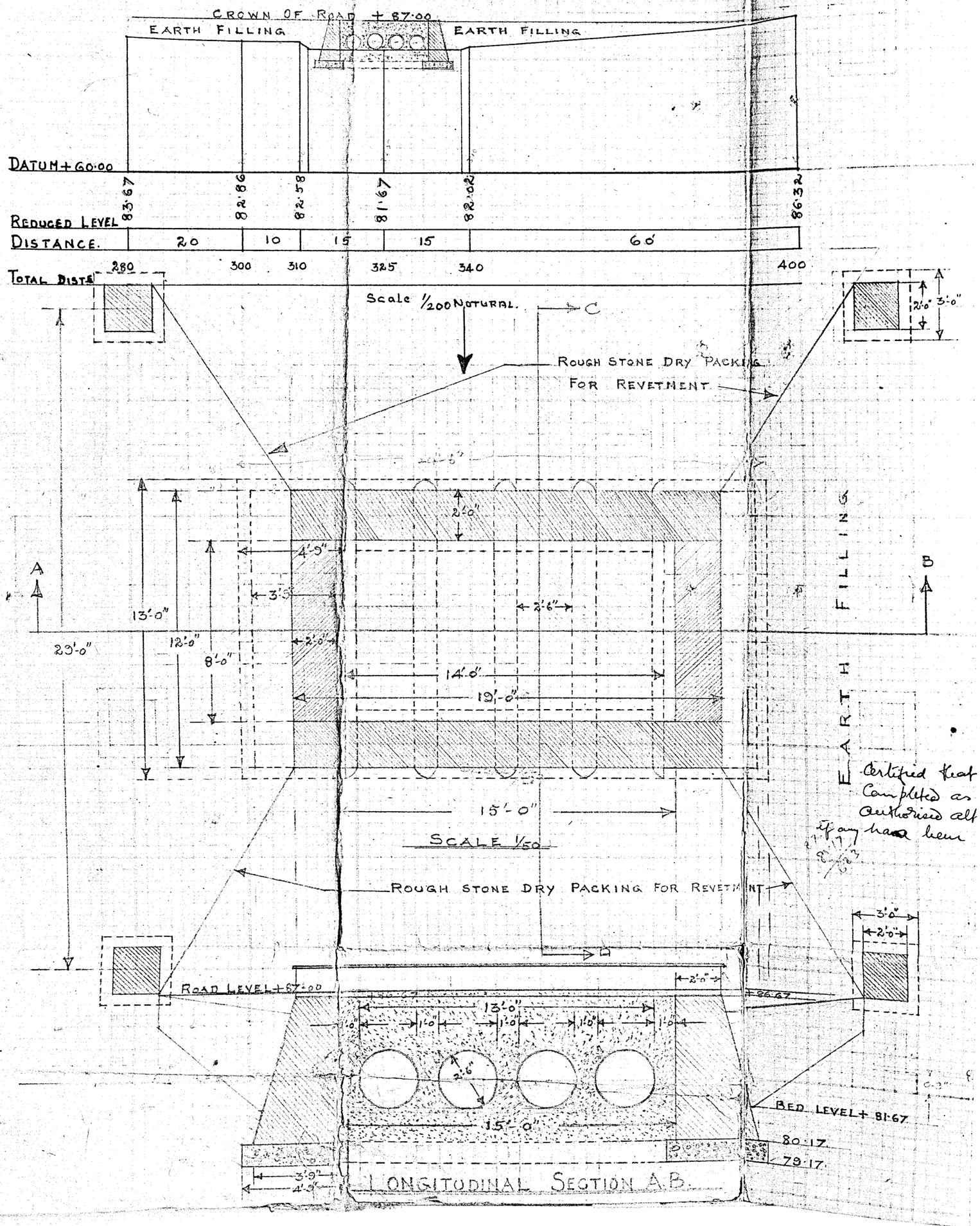
B.F (Page-2)

			2981 0 0				2953 4 0				27 12 0			
XII	Supplying & fixing at site of Hume pipes of 2'-6" dia including 2 Nos of Collars of 2'-6" dia (Vide P. 140 of HBR V)	24 Rft	13 12 0	330 0 0	24 Rft	13 12 0	330 0 0	—	—	—	—	—	—	
XIII	Cement Concrete 1:3:6 with 3/4" Size stone Jelly for binders (Vide P. 140 of HBR V)	6 cft	152 0 0	9 0 0	6 cft	152 0 0	9 2 0	—	—	—	0	2	0	excess due to Rounding off
XIV	Random rubble masonry in C.M 1:4 (Vide P. 140 of HBR V)	50 cft	114 0 0	57 0 0	68 cft	114 0 0	77 8 0	18 cft	114 0 0	20	8	0	Found essential during the execution
XV	Rough stone dry packing for aprons of revetments (Vide P. 141 of HBR V)	70 cft	58 6 0	41 0 0	68 cft	58 6 0	39 11 0	2 cft	58 6 0	1	5	0	Found sufficient during the execution
XVI	For unforseen items such as cutting leading drain etc	L.S.	—	8 0 0	—	—	—	—	L.S.	—	8	0	0	Incorporated in the approach road.
XVII	For petty Supervision & Contingencies	L.S	—	24 0 0	—	—	—	—	L.S.	—	24	0	0	Petty Supervision charges not used up.
	1'-0" dia pipe culverts at 0/3; 0/3 + 436; 0/2 + 186' & at 0/1 + 436'													
XVIII	Earth work excavating & depositing in bank within initial lead & lift Complying with Standard Specification in hard gravelly soil (Vide as per last in P. 141 of HBR V)	L.S.	—	50 0 0	4036 cft	21 6 0	86 4 0	L.S.	21 6 0	36	4	0	Found essential during the execution
XIX	Cement Concrete 1:3:6 in hard broken stone 1½" Size (Vide P. 141 of HBR V)	70 cft	139 0 0	97 0 0	70 cft	139 0 0	97 5 0	70 cft	139 0 0	0	5	0	Excess due to rounding off
XX	Random rubble masonry in C.M 1:4 (Vide P. 141 of HBR V)	200 cft	114 0 0	228 0 0	200 cft	114 0 0	228 0 0	—	—	—	—	—	—	
XXI	Supplying A class Hume pipes of 12" dia & fixing the same at site including 8 Nos of 12" dia Collars Complete (Vide P. 141 of HBR V)	72 Rft	6 0 0	432 0 0	72 Rft	6 0 0	432 0 0	—	—	—	—	—	—	
XXII	Cement Concrete 1:3:6 with 3/4" Size Stone Jelly for binders (Vide P. 142 of HBR V)	6 cft	152 0 0	9 0 0	6 cft	152 0 0	9 2 0	6 cft	152 0 0	0	2	0	Excess due to rounding off
XXIII	Rough stone dry packing for aprons & revetments (Vide as per the estimate)	100 cft	58 6 0	58 0 0	—	—	—	—	—	—	—	—	—	
XXIV	unforseen items such as cutting leading drain & extra range stone dry packing wherever req. (Vide as per the original estimate)	L.S.	—	50 0 0	—	—	—	—	—	—	50	0	0	Incorporated in other items of works
XXV	Petty Supervision & Contingencies	L.S.	—	46 0 0	—	—	—	—	—	—	46	0	0	Petty Supervision charges not used up.
	Total		4420-0-0				4262-4-0				194	7	0	
			4262-4-0								36	11	0	
	Difference		157-12-0							Difference	157	12	0	Savings.

S. A. Ciriyan
20/4/54
AE(Cl)

A. R. Ramakrishnan
Supdg. Hangalore
C-PSEs
19/4/54

PROPOSED HUME PIPE CULVERT AT %+325' OF ROAD FROM KADANGAL TO KUDUMBUR.



Certified that Completed as Authorised all if any have been

TAUK:- MANGALORE.
VILLAGE:- BIKAMPADI.

27

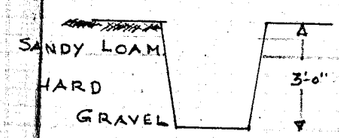
HYDRAULIC PARTICULARS

BED LEVEL	81·67
BED WIDTH	16'·0"
~~F.S DEPTH~~	~~2·5'~~
~~F.S.L~~	~~84·17.~~
M.F.L	85·67.
BED FALL	1/5510.
VELOCITY	~~6 ft/sec~~
DISCHARGE	172 Cusecs

LEVELS WERE TAKEN BY ME & RECORDED IN PAGE 1-7 OF L.F. BOOK S.K. 66.
LEVELS PERTAIN TO TY. B.M. ON TOP OF FURLONG STONE 7/4 OF MANGALORE UDUPI ROAD ...+ 100.00.

P.T.R. Ramakrishnan
S.O. Mangalore
C. Project S.K.
13/2/53

T.P. No 1.



SOIL CLASSIFICATION HAVE BEEN DONE BY ME & FOUND TO BE CORRECT.

P.T.R. Ramakrishnan
S.O.M.
3/2/53.

PREPARED BY.
P.T.R. Ramakrishnan
S.O. Mangalore.
C. Project 13/2/53

APPROVED By.

Bhagwandas Rai 22/2/53
E.E.

A.A. Gaffoor 20/4/54
AE (CP)

THE

GRAVEL ROAD SURFACE

GRAVEL PACKING BETWEEN THE RETAINING WALLS

HUME PIPE OF 2'-6" DIA. FIXED IN C.C. 1:3:6 OF 3/4" JELLY FOR PACKING

RANDOM RUBBLE MASONRY IN C.M. 1:4 FOR PARAPET WALL & 6"x2'-6"

RANDOM RUBBLE MASONRY IN C.M. 1:4 FOR PILLASTERS 2'-0"x2'-6"

ROUGH STONE REVETMENT DRY PACKING 1'-6" THICK C.C. 1:3:6 FOR FOUNDATION

COPING SLAB 2" THICK

ROAD LEVEL +87.88

2'-6" HUME PIPE

BED

M.F.L +85.67

DATUM +80.00

REDUCED LEVEL

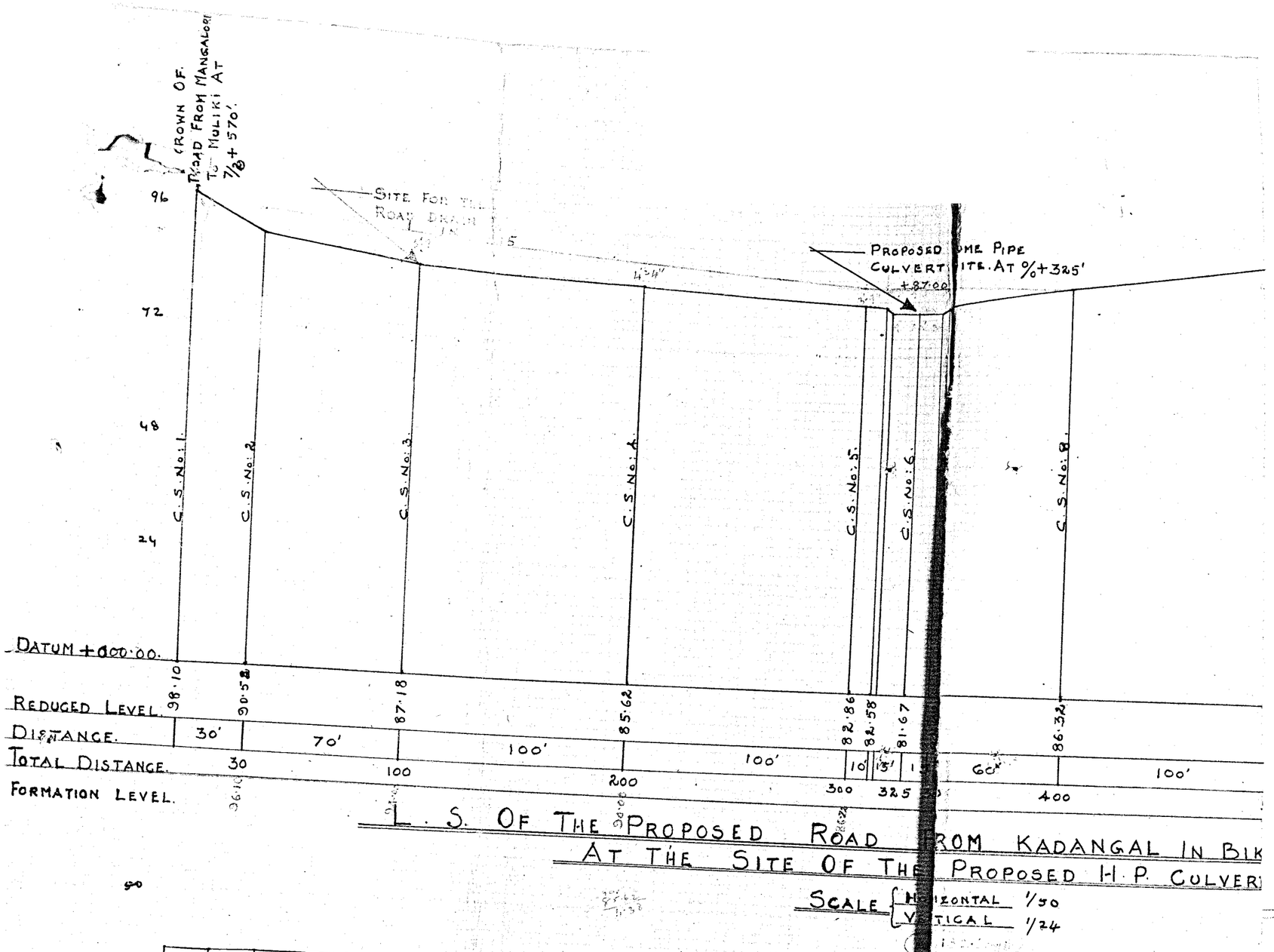
SECTION ALONG C.D.

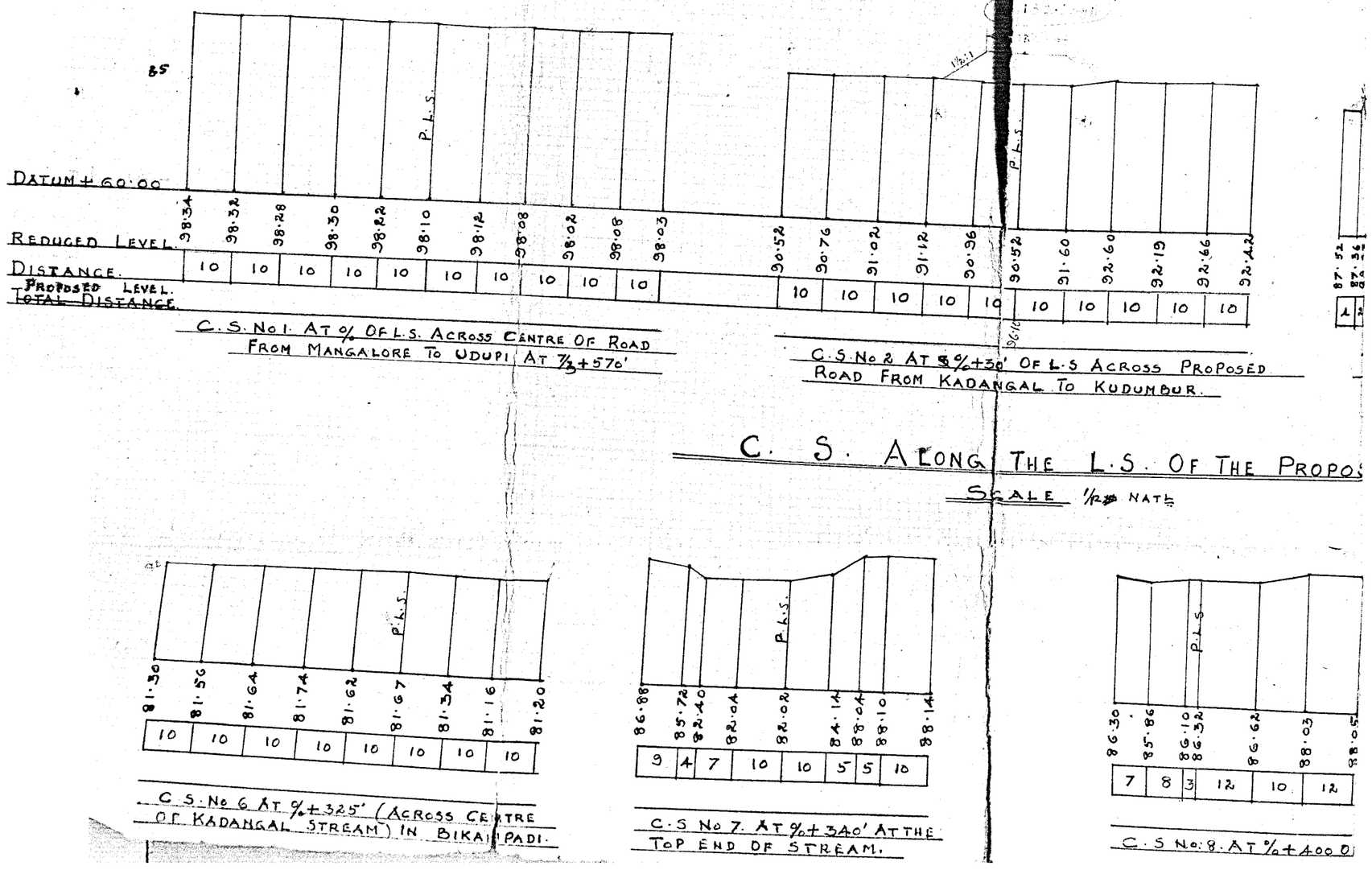
GRAVEL PACKING BETWEEN THE HUME PIPES C.S. No 7 AT 0/+340' AT THE TOP END OF STREAM

SCALE 1/50

The work has been done as per this plan and all deviations and deviations shown in red ink

P.T.R. Ramakrishnan
Sup. Mangalore
C.P.W.D.
19/4/54.





C.S.No 1. AT 0/0 OF L.S. ACROSS CENTRE OF ROAD FROM MANGALORE TO UDUPI AT 7/8+570'

C.S No 2 AT 5/0+30' OF L.S ACROSS PROPOSED ROAD FROM KADANGAL TO KUDUMBUR.

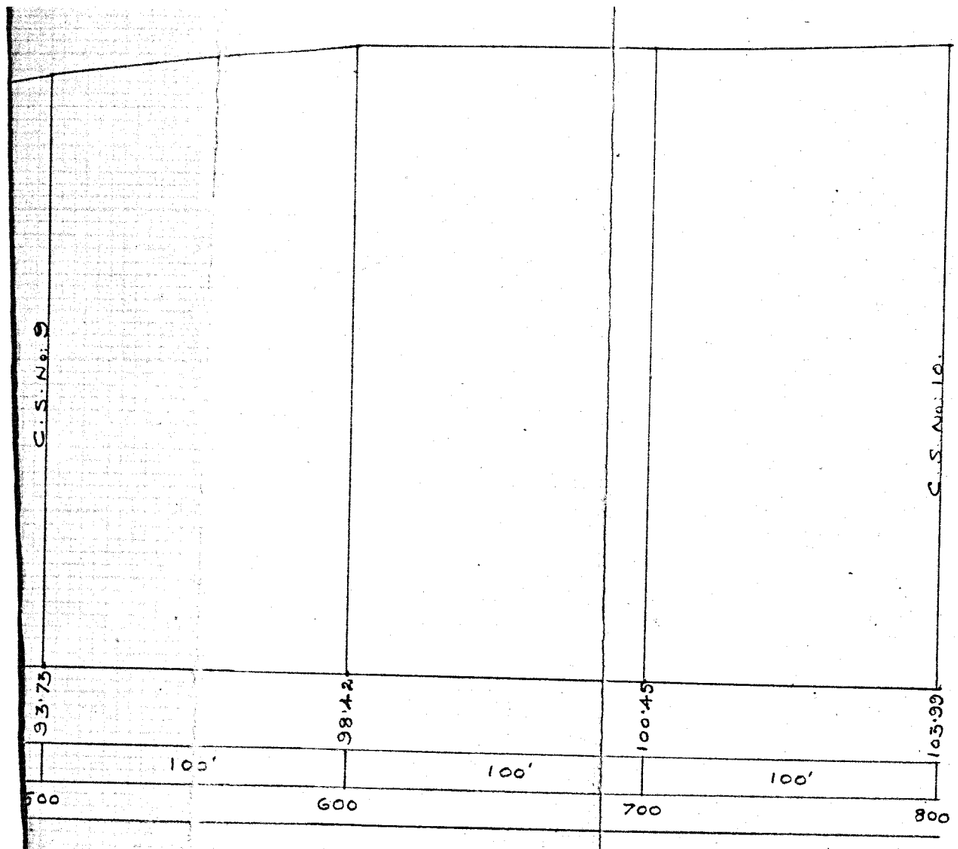
C. S. ALONG THE L.S. OF THE PROPOS

SCALE 1/2" = 1 FOOT

C.S No 6 AT 0/0+325' (ACROSS CENTRE OF KADANGAL STREAM) IN BIKARPADI.

C.S No 7. AT 0/0+340' AT THE TOP END OF STREAM.

C.S No:8. AT 0/0+400

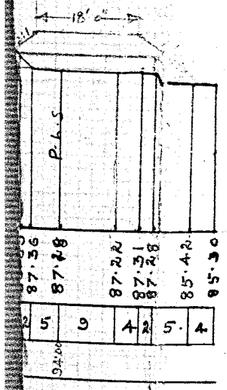


AMPADI To KUDUMBUR

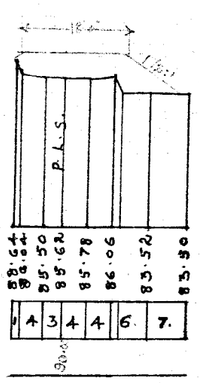
Actual

SITE FOR R
DRAIN

A = 127.95 Sq ft

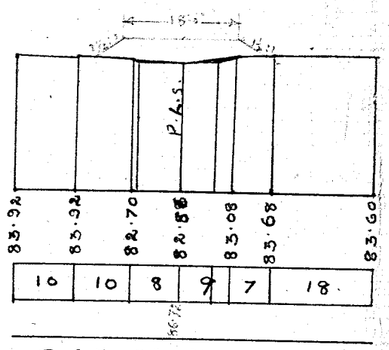


C.S.No 3 AT 0/+100'



C.S No 4 AT 0/+200'

A = 84.3 Sq ft

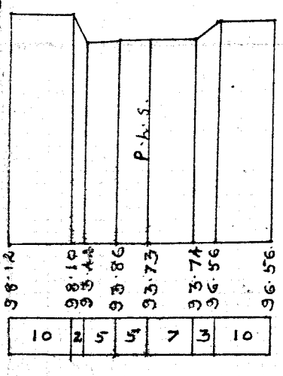


C.S.No 5 AT 0/+300' AT THE PROPOSED CAUSEWAY AT KADNGAL STREAM.

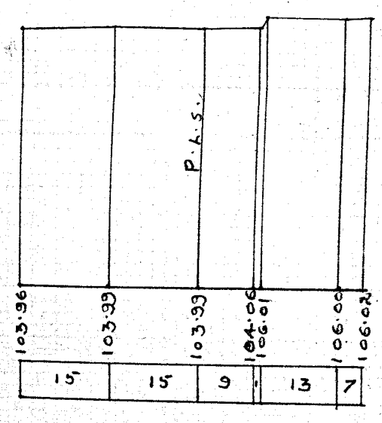
Certified that the work has been Completed as per this plan and all authorised alterations and deviations if any has been shown in red ink

Asst Manager
Sup Mangalore
C.P.W.D.
19/4/54

ED H.P. CULVERT.



C.S. No. 9 AT 0/+500' OF L.S.



C.S.No 10. AT 0/+800' OF L.

LEVELS WERE TAKEN BY ME & RECORDED IN PAGE 1-7 OF L.F. BOOK S.K.66.
LEVELS WERE PERTAIN TO B.M. ON TOP OF FURLONG STONE 7/4 OF MANGALORE UDUPI ROAD. --+ 100.00.

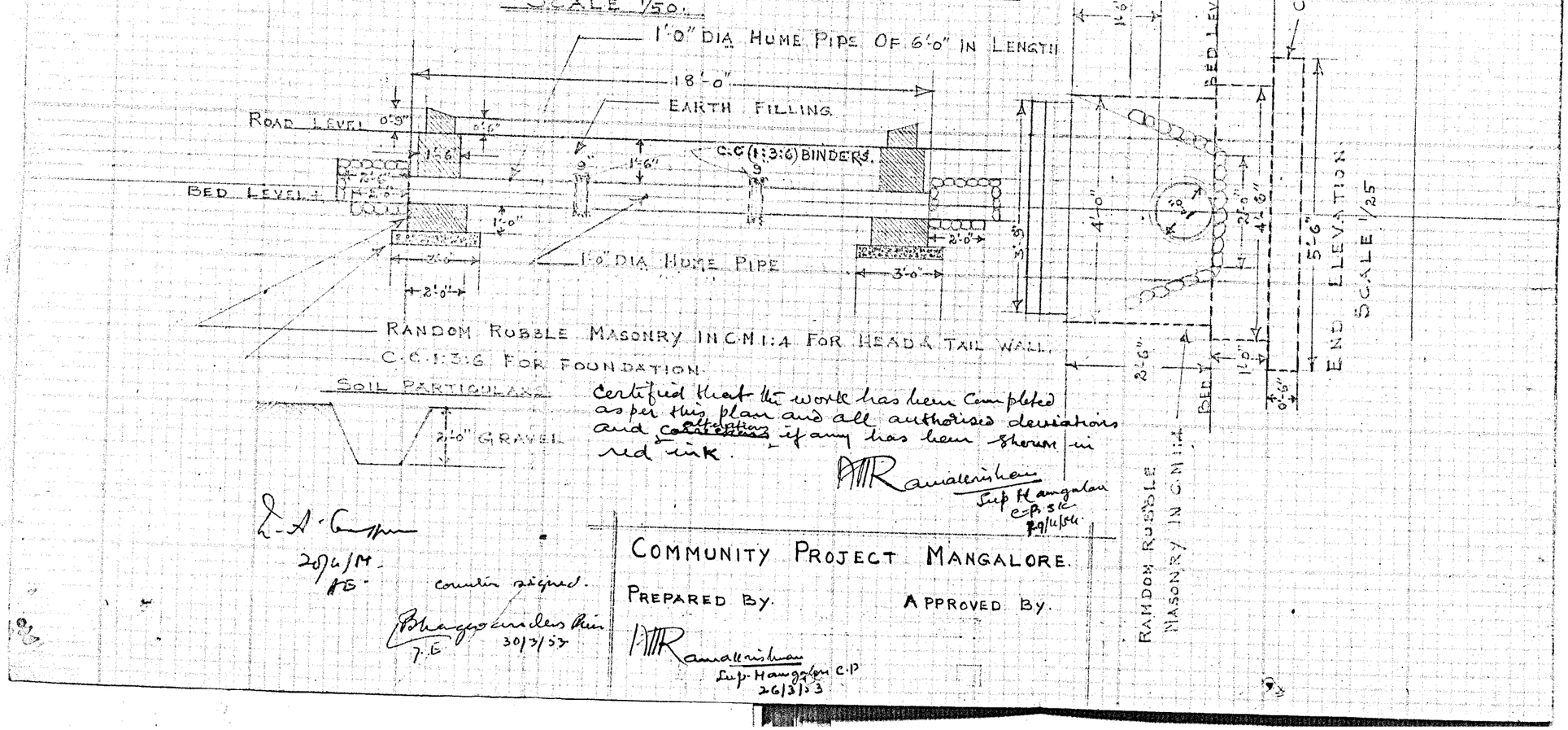
S.O. Mangalore
Commith Project
S.K.
10/2/53.

Bhagwandas Asst
J.E. 27/2/53

PROPOSED 1'-0" DIA HUME PIPE ROAD CULVERT FROM 0/+400' OF KADANGAL TO KUDUMBUR ROAD.

TYPICAL LONGITUDINAL SECTION OF CULVERT

SCALE 1/50.



SOIL PARTICULARS

Certified that the work has been completed as per this plan and all authorised deviations and ~~corrections~~ alterations if any has been shown in red ink.

P.T.M Ramakrishnan
Sup Hangalam
C.P.SC
29/4/54.

L.A. Engineer
20/4/54.
AE.

counter signed.
B. Bhargava Executive Engineer
7.E 30/3/54

COMMUNITY PROJECT MANGALORE.

PREPARED BY.

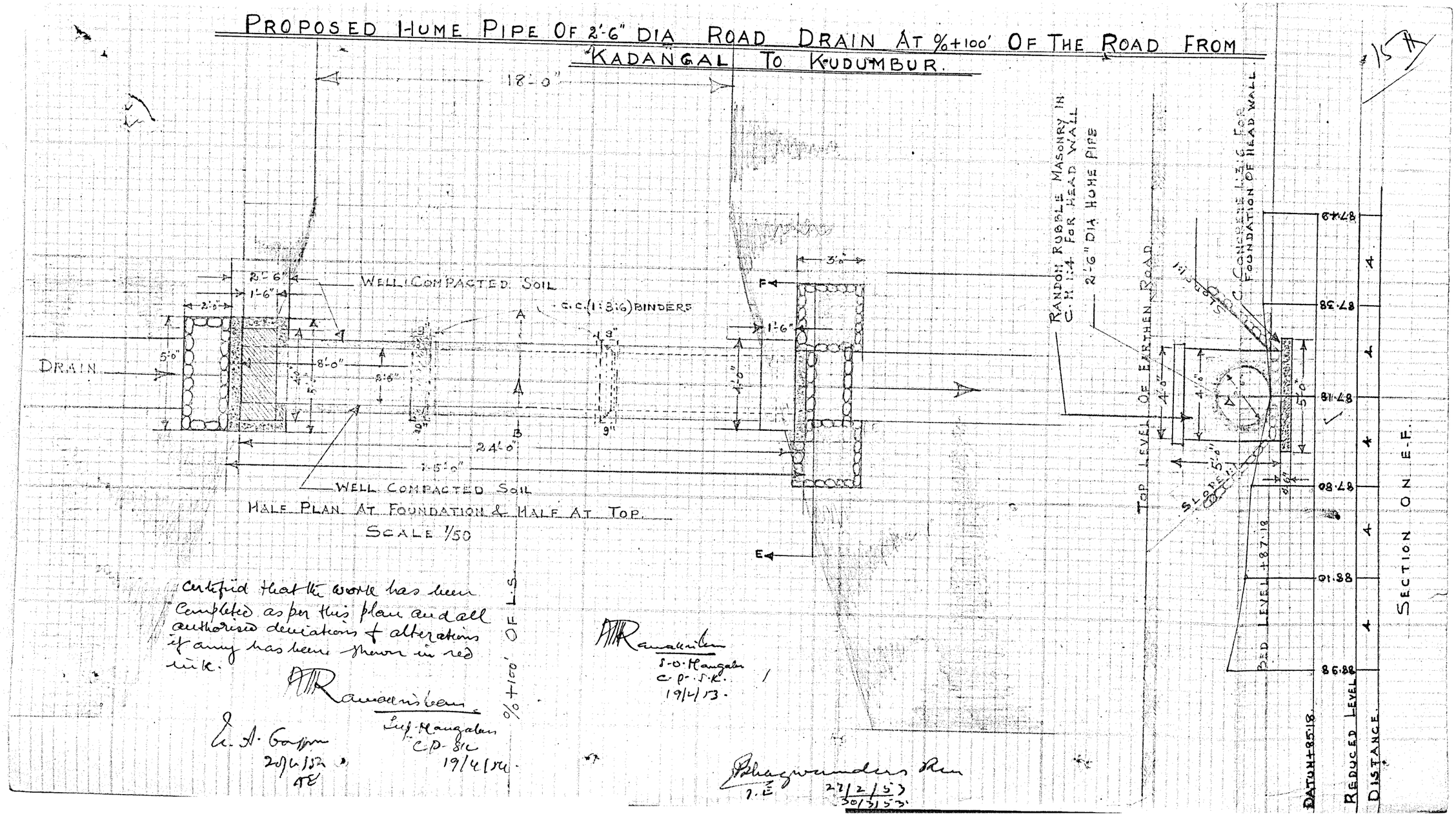
P.T.M Ramakrishnan
Sup. Hangalam C.P
26/3/54

APPROVED BY.

41

PROPOSED HUME PIPE OF 2'-6" DIA ROAD DRAIN AT %+100' OF THE ROAD FROM KADANGAL TO KUDUMBUR.

15 A



HALF PLAN AT FOUNDATION & HALF AT TOP.
SCALE 1/50

Certified that the work has been completed as per this plan and all authorised deviations & alterations if any has been shown in red ink.

A.A. Ramakrishnan
Sub-Mangalore
C.P. Rly
19/4/54.

L. A. Gopinath
20/4/54
AE

% +100' OF L.S.

A.A. Ramakrishnan
S-O. Mangalore
C.P.-S.R.
19/4/54.

Bhagwandas Rao
I.E.
22/2/54
30/3/54

Proposed Road from Kadangal via Bikampadi to Kudumbur (1 mile 3 furlongs + 134')

5570/-
~~5630/-~~

Lish amount Rs ~~5630/-~~

The above estimate is prepared for the formation of the proposed earthen road from Kadangal via Bikampadi to Kudumbur village. The road starts at 7/3 + 576' of Mangalore - Udupi Coastal ~~Trunk~~ road towards the ~~left~~ Right side. The embankment for the formation of the road will be done by the villagers (only the masonry portion will be done by the department. At 0/0 + 100' of the proposed earthen road a Hume pipe of 2'-6" dia has been provided to drain off the catchment water of the ~~main~~ Tumbe road that crosses the proposed road at the entrance. A concrete bed of ~~[illegible]~~ 5'-0" x 2'-6" x 0'-6" thick has been provided for the ~~main~~ Head & Tail wall ~~[illegible]~~ ~~thick~~ ~~and wings of 9" width~~ ~~1½" thick all round has been provided at the inlet, with joint of~~ ~~pipe face at the outlet end to hold down the Hume pipes from lateral~~ ~~motion~~. 2'-0" earth cushion will be provided over the pipes. Rough stone revetment at the entrance & outlet has been provided to prevent erosion. A rough stone apron of 5'-0" x 2'-0" x 1'-0" will be provided at the inlet & outlet side. The width of the road is proposed as 24'-0" since it is at the entrance of the main road.

At 0/0 + 325' of the proposed road a stream crosses the Calculated discharge is about 172 cusecs. The efflux is about 0.2 which is negligible. Hume pipes of 2'-6" dia & 12' in length in four ~~Rounds~~ ~~packed with gravel all round in proposed~~ ~~[illegible]~~ being fixed. Since the bed & waterway of the stream at this site is about 30'-0" due to side banks being very low even the proposed culvert width is only 15'-0". Rough stone masonry retaining wall has been proposed all round and only at the abutments sides a bed width of 0.6 ft has been proposed to prevent against undermining. The proposed site was accepted and as a regular passage for the villagers & cattle to cross the stream. The extra lineal waterway will be filled up with sand down to the full road width of 18'-0" & the revetment of 1'-0" thick will be provided on the slopes sides & at HF of 0'-6" above H.F.L. The revetments will be connected to the wing of masonry pitchers of 2'-0" x 2'-0" has been proposed in form of mound.

An L.S. provision is made for excavation for the approach road from stone. The approach road ends at 0/5 + [redacted] The ~~portion~~ total length of the proposed earthen road is 1/5 + 134' in Kadumbu Village. A pipe of 1 Nos 1'-0" dia culvert have been proposed to drain off the road water. The Nos pipes will rest on well compacted soil all round + R.R masonry in C.M 1:4 for head & tail wall will be provided ~~Concrete bed of 1'-0" x 1'-3" x 6" thick & Concrete kerbs of 1'-6" x 1'-4" x 2'-9" each will be provided at the entrance, at the junction of pipe (of the culvert)~~ Rough stone pavement for side drains & apron of 2'-6" x 2'-0" x 1'-0" will be provided at the entrance & outlet of the pipe. This provision has been made for extra height of revetment in case the earth cushion is more than 1'-6". The earth cushion provided in this estimate is an average of 1'-6". Separate wall up estimates for the said culverts are noted below & therewith enclosed.

1) Formation of the proposed earthen road from 0/5 + 400' of Kadangal to Kadumbu Rs 1132/- ✓

2) Construction of 2'-6" dia Hume pipe Road culvert at 0/5+113' on the proposed road from Kadangal to Kadumbu Rs 2950/- ✓

3) Construction of the proposed Hume pipe culvert at 0/5 + 3 - 5' of the proposed road from Kadangal to Kadumbu Est Rs ~~3300~~ 2956/- ✓

4) Construction of two nos Hume pipe Road culverts at 0/3rd 0/5 + 436' & 0/5 + 186' & at 0/5 + 436' of the proposed road from 0/5 + 400' of Kadangal to Kadumbu Est Rs ~~9707~~ 9707/- ✓

The rate provided in the above estimate is based on the standard schedule of rates and the work will be executed by the Community project engineer with Rural Development.

AMR
Community Engineer
S.D. Kanjangad
Community Project Sh
19/2/53

Thangavelu Rai
27/2/53
J.E.

Name of work :- formation of proposed Earthen Road from 0/0+400 of Kadamakkai to Batticaloa to Kudumbur

Earthwork Calculation Sheet :-

Reach	Distance	width	Average cutting	Quantity	Remark
from 0/0+400 to 0/0 + 500'	100'	18'-0"	1'-6"	2700	Hard stiff clay
0/0+500 to 0/0+600	100'	18'-0"	1'-3"	2250	"
0/0+600 to 0/0+700'	100'	18'-0"	1'-0"	1800	"
0/0+700 to 0/1+140'	100'	18'-0"	0'-9"	1350	"
0/1+140' to 0/1+440'	300'	18'-0"	0'-9"	4050	ordinary soil
0/1+440' to 0/2+180'	400'	18'-0"	0'-6"	3600	"
0/2+180' to 0/2+380'	200'	18'-0"	1'-0"	3600	"
0/2+380' to 0/3+220'	500'	18'-0"	0'-9"	6750	"
0/3+220' to 0/3+354'	134'	18'-0"	1'-0"	2412	Gravelly soil
0/3+354' to 0/4+294'	600'	18'-0"	0'-6"	5400	Ordinary soil
0/4+294' to 0/5+34'	400'	18'-0"	0'-7"	4200	"
0/5+34' to 0/5+434'	400'	18'-0"	0'-6"	3600	"
0/5+434' to 0/7+14'	900'	no work.			As it joins with an existing road
0/7+14' to 0/7+614'	600'	18'-0"	0'-9"	8100	Hard stiff clay
0/7+614' to 1/1+94'	800'	9'-0"	0'-6"	3600	"
1/1+94' to 1/2+234'	200'	9'-0"	0'-6"	3600	"
1/2+234' to 1/3+134'	500'	8'-0"	0'-6"	2000	"

I a) Earthwork excavating in ordinary soil 18000+13200' = 31200 cft

b) — do — Hard stiff clay 8100+17300' = 25400 cft

c) — do — Gravelly soil 2412 = 2412 cft

27/2/53

I.C.

P.M. Manickam
S.O. Mangalore
Communi. Project Sn
18/2/53

DETAILED ESTIMATE.

384,300—24-10-51. C.F. 160 (1).

District South Kanara. Taluk Mangalore.

Village and Survey Bikampadi

Name and number of work Formation of the proposed earthen Road from 0/+400' of Kadangal via Bikampadi to Kudumbur.

Date and cost of original construction

Date and cost of last repairs

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
1 a) Earthwork in excavating and deposition on bank with initial lead + lift in light black Cotton, Sandy loam, dry silt & swampy soil (S.F No. 1-B) (details of Calculation Sheet separately attached)		—	—	—	31200 cft	or Say 31200 cft
b) —do— in hard stiff clay, stiff black Cotton, hard red earths etc (S.F No 1-B) (details of Calculation sheet seperately attached)		—	—	—	25400 cft	or Say 25400 cft
c) —do— Hard gravelly soil (S.F. 1-B) details of Calculation sheet seperately attached)		—	—	—	2412 cft	or Say 2412 cft
2) Extra 10 yards lead over the initial lead.					41712 cft	or Say 41712 cft
For contingent items					L.S.	L.S.
For petty Supervision & contingencies					L.S.	L.S.

Executive Engineer 27/12/53

Assistant Engineer
S.O. Mangalore.
Community Project 5.1
19/12/53.

Name of work: - formation of the proposed earthen road from 0/0 to 4/50 of Kadangal in Bachattipatti to Kudumbur

Abstract Estimate

Sd. 193-52

Quantity. (1)	Description of work. (2)	Item number in the schedule of rates. (3)	Rate. (4) Rs.	A.	P.	Per (5)	Total. (6) Rs.	A.	P.	Amount (7) Rs.	A.	P.
I a) 31200 c.ft.	Earthwork excavating and depositing on bank with initial lead of 1/4 mile in light black cotton, sandy loam, dry stiff ordinary soils (S.I. 12B)		10	16	0	1000 c.ft.	—	—	—	339	—	—
b) 25400 c.ft.	— do — Hard stiff clay, stiff black cotton, hard red earths etc (S.I. 14B)		18	14	0	1000 c.ft.	—	—	—	479	—	—
c) 2412 c.ft.	— do — Hard gravelly soil (S.I. 15B)		21	6	0	1000 c.ft.	—	—	—	52	—	—
d) 41712 c.ft.	Extra 10 yards over 1/4 mile initial lead (S.I. 18) - L.S.		1	2	0	1000 c.ft.	—	—	—	47	—	—
II L.S.	For earthwork charges		—	—	—	—	—	—	—	173	—	—
III L.S.	Petty Supervision & contingencies		—	—	—	—	—	—	—	60	—	—
										1150	—	—
	Supervision charges at 5 per cent.											
						Grand total, Estimate				1150	—	—

Divisional officer (or other countersigning officer to be named).

Sanctioned for 19 -19 .

J. Rangaswamy 27/2/53

Collector or other sanctioning officer (to be named).

Signature and designation of the officer submitting this estimate.

S. Ramaswamy
C. P. S. K.
27/2/53

Tahsildar or other officer (to be named).

District South Kanara

Taluk Mangalore

Village No. Bikampadi M.I.

PROJECT EXECUTIVE OFFICER
23 FEB 1953

Name of Work No. :- Formation of the proposed earthen Road from 0/0 to 1400' of Kadangal to Kudemular.

ESTIMATE ABSTRACT.

Budget head

Main head

Sub-head

Amount of estimate Rs 1150/-

Sanction number and date

To be carried out by Community Project S.E.

District :- South Kanara. Taluk :- Mangalore.

Village and Survey Bikarnpadi Date and cost of original construction

Name and number of work :- Construction of 2'-6" dia Hume pipe Road drain at o/s 150' ft L.S. of K. Bridge Repairs from Kadangal to Bikarnpadi

Date and cost of last repairs

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
I Earth work excavation in all Soils for foundation etc.					L.S.	L.S.
II Cement in hard broken stone 1½" gauge in C.M 1:3:6.						
For foundation of head wall & tail wall	1×2	5'-0"	2'-6"	0'-6"	13 cft	or Say 13 cft
III Supplying & fixing Hume pipe of 2'-6" dia including 2 Nos of collars at Site :-						
At Site	1	24'-0"			240 ft	or Say 240 ft
IV ⊗						
V ## Random rubble masonry in C.M 1:4 :-						
For Head wall	1×2	4'-0"	1'-6"	5'-0"	60 cft	
Deduct for pipe Opening	1×2	$\pi \times 2'-9\frac{1}{2}" \times 2'-9\frac{1}{2}" \div 4$		1'-6"	18 cft	
Net total less deducted		60 − 18			42 cft	or Say 50 cft
VI Rough stone dry packing for aprons & revetments :-						
For revetment on sides	1×4	4'-0"	3'-0"	1'-0"	48 cft	
For apron (inlet & outlet)	1×2	5'-0"	2'-0"	1'-0"	20 cft	
			Total		68 cft	or Say 70 cft
VII For unforseen items such as cutting headings drain etc					L.S.	L.S.
VIII For Petty Supervision & Contingencies					L.S.	L.S.

⊗ IV cement concrete (1:3:6) with ¾" size stone jelly for binders at joints of pipe

	1×2	3'-3"	3'-0"	0'-9"	15	
Deduct for: pipe opening	1×2	$\pi \times 2'-9\frac{1}{2}" \times 2'-9\frac{1}{2}" \div 4$		0'-9"	9	
Net total less deducted					6	6 cft

Examined by Exp Hqrs C.P.S.I Mang 25/31

Details of work.	Number.	Measurement in feet.			Area or contents.	Total quantity of each description of work.
		Length.	Breadth.	Depth.		

C.F. 156. (2).

Abstract Estimate.

o/o +100 of K.K.S. of K. proposed road from Kadangal to Kudumb

Quantity. (1)	Description of work. (2)	Item number in the schedule of rates. (3)	Rate. (4) Rs.	A.	P.	Per (5)	Total. (6) Rs.	A.	P.	Amount. (7) Rs.	A.	P.
I L.S.	Earthwork excavation in all sorts for foundation &c					L.S.				10	0	0
II 15 c/ft	Concrete in hard broken stone in C.M. 1:3 (Rate adopted per K.P. calcut at o/o +325 of the above road)	1½" Single	139	0	0	100 c/ft				21	0	0
III 24 R/ft	Supplying & fixing H.P. 2-6" dia including 2 collars at Rs. (Rate as above)		13	12	0	R/ft				330	0	0
VI 6 c.ft.	cement concrete (1:3:6) with 3" size jelly for binders at joints		152	0	0	100 c/ft				9	0	0
V IV 50 c/ft	Random rubble masonry in C.M. 1:4 (Rate adopted per K.P. calcut at o/o +325 of the above road)		114	0	0	100 c/ft				57	0	0
VI 70 c/ft	Rough stone dry packing for apron & revetment &c (Rate as above)		5-8	6	0	100 c/ft				41	0	0
VII L.S.	For surface drains such as cutting leading drains &c									8	0	0
VIII L.S.	For petty Supervision & Contingencies									24 25	0	0

Supervision charges at 5 per cent.

Grand total, Estimate — 500

Divisional officer (or other countersigning officer to be named).

Sanctioned for 19 -19 .

Signature and designation of the officer submitting this estimate.

25/3/23

Collector or other sanctioning officer (to be named).

Tahsildar or other officer (to be named).

Forest Section. C.F. 166 (2)—342,006—24-10-51.

District

Taluk

Village No.

Name of Work No.

ESTIMATE ABSTRACT.

Budget head

Main head

Sub-head

Amount of estimate Rs 500/-

Sanction number and date

To be carried out by

in Bikampadi at L.S. 0/0 + 325' of the Proposed Road from Kadaingal to Kudamuruti.

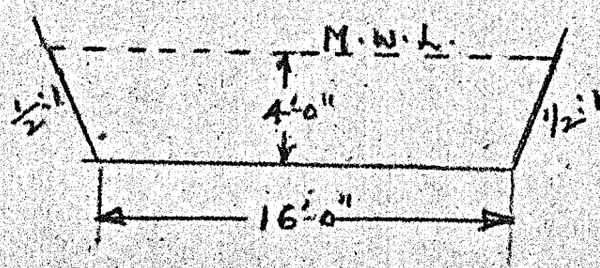
Calculations.

Hydraulic particulars of the stream

Bed level = 81.67.
Bed width = 16'-0"
~~F.S. depth~~ = ~~2'-5"~~
~~F.S.L.~~ = ~~84.17~~
= 85.67
M.W.L = 85.67
Bed fall = 1/5510.
Velocity = 6'/Sec.
Discharge = 172 cusecs.

The Head of discharge is taken as the difference between the F.S.L. and M.W.L. Conditions of the stream.

Calculations of discharge with water level at M.W.L.



$A = \frac{16+20}{2} \times 4 = 72$ sq ft

$P = 16 + 2 \times \sqrt{4^2+2^2} = 24.4$

$A/P = \frac{72}{24.4} = R = 2.9$

$\therefore \sqrt{R} = 1.7$

Assuming value of N = 0.0225 and taking Corresponding values of N and D from the Hoda's Tables for a bed fall of 1/5510.

$$V = \frac{NR}{\sqrt{R}+D} = \frac{1.854 \times 2.9}{1.7 + 1.286}$$

$$= \frac{5.38}{2.986} = 1.8.$$

Discharge for a area of 72 sq ft

$$= 72 \times 1.8 = 130 \text{ cusecs}$$

$Q = C \cdot A \sqrt{2gh}$.

Considering the friction loss for the Hume pipe the Value of $C = \frac{L}{D}$ where L is the length of pipe and D = Diameter of the pipe. Therefore $\frac{L}{D}$ from M.D.S.S. for a pipe of 2'-6" dia 15'-0" in length = 0.79.

A = The area of the Vent way

h = The head = 1.5'.

$$Q = .79 \times A \times \sqrt{2 \times 32} \times h.$$

$$A = \frac{130.}{.79 \times 8 \times 1.5} = \frac{13.7}{18} \text{ sq ft}$$

The area of 2'-6" dia pipe = 4.91 sq ft

∴ The no. of rows of pipes required for the above discharge $\frac{13.7}{4.91} = 3$ rows.

Provide 4 rows in view of backing from the main river.

Calculation for efflux.

$$x = \frac{v^2}{2g}\left(\frac{1.1 l^2}{l_1^2} - 1\right)$$

v = normal velocity; l = normal width of stream

l_1 = length of Opening under culvert

$$x = \frac{6}{64}\left(\frac{1.1 \times 18^2}{10^2} - 1\right) = 0.01$$

= 0.01 which is negligible.

PWR calculations
S.D. Hoogar
Community Projects
12/2/53

J.E. 17/2/53

Taluk :- Mangalore. Community Project.

Name of Work :- Construction of the proposed Hume pipe culvert at 0/+325' of the proposed Road from Kadamgal to Kudumbur.

Distance	Area in Sq ft	Mean area in Sq ft	Distance in feet	Quantity cft.
C.S. No: 1 at 0/ of L.S.	0			
		66.3	30	199
C.S. No: 2 at 0/+30'	132.6			1060
		151.4	70	1060 ~~14900~~
C.S No: 3 at 0/+100'	~~170.1~~ ~~157.4~~			~~16000~~
		149.0	100	14900 ~~16000~~
C.S. No: 4 at 0/+200'	127.9			
		106.1	100	10600 ~~4420~~
C.S No: 5 at 0/+300'	84.3.			
		42.2	100	4420 ~~327~~
C.S. No: 8 at 0/+400'	0			
Extra for portion affected by Canal				321
		Total		31500 cft.

Bhagwandas Kini
J.E 27/2/53

P.M. Tavaraj Urs
S.O. Mangalore.
C.P.S.I.
18/2/53

DETAILED ESTIMATE. 384,306—24-10-51. C.F. 160 (1).

District South Kanara. Taluk Mangalore.

Village and Survey Bikampadi. Date and cost of original construction

Name and number of work:— Construction of the proposed Hume pipe culvert at Date and cost of last repairs
9o+32.5' of the proposed Road from Kadangal to Kudumbur.

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
I Earthwork excavation in all soils for foundation, filling in basement etc complete					L.S.	L.S.
II Concrete in hard broken stone 1½" Guage in C.M. 1:3:6 :—						
For foundation of the long walls	1×2	14'-0"	3'-0"	1'-0"	84	
" Side walls	1×2	13'-0"	4'-9"	1'-0"	124.	
For Pillasters	1×4	3'-0"	3'-0"	0'-9"	27	
Extras	—	—	—	—	15	
		Total			250 cft	or Say 250 cft
III Random rubble masonry in C.M. 1:4.						
For the long walls	1×2	~~15'-0"~~	2'-0"	6'-6"	390. ~~364~~	
For Side walls	1×2	~~12'-0"~~	2'-3'-9"	6'-6"	449 ~~486~~	
For Pillasters	1×4	2'-0"	2'-0"	3'-6" ~~2'-9"~~	56 ~~44~~	
For parapet wall	1×2	19'-0"	0'-9"	1'-0"	29	
Extras					26	
		Total			926 cft	~~900 cft~~
Deduct for:-						
Pipe opening	2×4	$\pi \times 2'-4\frac{1}{2}" \times 2'-7\frac{1}{2}" \times 2'-0"$			98 cft	
*Net total less deduction					828 ~~802~~ cft	or Say ~~800~~ cft
					900-98 926-98	
IV Supplying & fixing Hume pipe of 2'-6" dia in conducting 4 nos of Collars at Site.						
For Ventway of 4 Pipes	1×4	12'-0"	—	—	48 Rft	or Say 48 Rft
V Cement Concrete 1:3:6 of ¾" Guage Jelly for packing the sides of Hume pipes.—						
Longwise	1	15'-0"	12'-0"	3'-9½"	683	
For cut waters	8×2	$\frac{1}{4}\pi \times 6" \times 6"$ / 4		3'-9½"	3	
		Total			686	
Deduct for:-						
Pipe opening	1×4	$\frac{\pi \times 2'-9\frac{1}{2}" \times 2'-9\frac{1}{2}"}{4}$		12'-0"	294	
Net total less deduction					686-294 = 392 cft	or Say 400 cft

C.F. 150 (1)

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
VI Grand packing on top of pipes				5.5	660 cft	~~or Say 700 cft~~
Deduct for pipes.	1	15'-0"	8'-0"	1'-8"	~~200 cft~~	~~or Say 200 cft~~
	4	$\pi \times 2'-9\frac{1}{2}" \times 2'-9\frac{1}{2}"$		x 8'-0"	-196	
		Net total less deduction +			464	or Say 500 cft.
VII Plastering with C.M 1:4 of 3/4" thick.						
For long wall 2 sides	1x2	15'-0"	—	6'-6"	195	
For short wall inside	1x2	8'-0"	—	6'-6"	~~364~~ 104	
" outside Shoot Apron	1x2	8'-0"	—	6'-7"	106	
" 2 Sides	2x2	$\frac{2'-0" + 3'-9"}{2}$	—	6'-6"	75	
Pillasters four sides	1x4	8'-0"	—	2'-9"	88	
" Top	1x4	2'-0"	—	2'-0"	16	
For cut water for parapet wall 2 sides + top ends	2x8	$\frac{1}{4} \times 2\pi \times 0'-6"$		3'-9½"	13	
	1x2	19'-0"	—	3'-0"	114	
	4x1				3/4	
				Total	~~825~~ 940 cft	
Deduct for:-					505	
Pipe openings	4x1	$\pi \times 2'-1" \times \frac{1}{2}" \times 2'-9\frac{1}{2}"$			99	
		4			940	
Net total less deduction					~~825-99=~~ 842 cft	~~820 cft~~
				505-49	726 cft	or Say ~~730 cft~~
					456	460
VIII Rough stone dry packing for apron & revetment:-						
For toe wall on four sides	1x4	11'-6"	2'-0"	2'-0"	184	
	x	~~48'-0"~~			~~192~~	
For revetment on downstream sides	1x2	$\frac{11' + 12'-6"}{2}$	2'-6"	1'-0"	59	
		~~44'-0"~~	~~5'-6"~~		~~154~~	
" Short ~~slope~~ upstream side	1x2	$\frac{10' + 11'-6"}{2}$	3'-6" (Ave)	1'-0"	75	
		~~21'-6"~~	~~1'-6"~~		~~78~~	
					27	
Extra					~~450~~ 310	350 cft
				Total		or Say ~~450 cft~~
IX For unforseen items such as work in the approach roads etc (details of items of work Calculation Separate Sheet attached)					L.S.	L.S.
X For Contingencies & petty Surpervision					L.S.	L.S.

Bhagyavanthaiah A.M. Overseer Gen. 5.0 Hangodu. D.S.E.

Data-sheet to accompany the estimate for Construction of the proposed R.C.C. culvert of 2'-6" dia at 0/s 325' of the proposed Road from Kandangal to Kudumanam.

Quantity.	Description of work.	Rate.			Per.	Amount.			Total.
		Rs.	A.	P.		Rs.	A.	P.	
I	Earth work excavation in hard stiff clay etc. as per S.S. No. 14 B & Note III.								
II	Concrete in hard broken stone 1:4:8 Same as C.H. 1:3:6 100 cft.								
100 cft	Hard broken stone as per S.S. 33 C.	23	0	0	100 cft	23	0	0	
"	Lead for Stone from Hangalpatta 6 miles H.R. 5 H.H.R = 25-12-6 2 half mile = 3-0-0 = 28-12-6	28	12	6	100 cft	28	12	6	
50 cft	Sand	2	8	0	"	1	4	0	
"	Lead for Sand 5 furlongs Hand load from Hangal 4 furlongs = 10-14-0 2 half furlongs = 2-10-0 = 13-8-0	13	8	0	"	6	12	0	
		87	8	0		58	5	4	
50/3 cft	Cement	2	0	0	cft	60	0	0	
"	Lead for cement from Hangalore 7½ miles H.R. 5 H.H.R = 25-12-6 5 half mile = 5-0-0 Total = 30-12-6	30	12	6	cft	3	0	0	
	Coolies								
1/2 No.	Mason 1st class	3	2	0	each	1	9	0	
5 Nos.	Men Hands	1	8	0	"	7	5	0	
4 Nos.	Women "	4	12	0	"	3	6	0	
50 cft	Mixing mortar	4	8	0	100 cft	2	4	0	
	Sundries	L.S.				1	7	1	
		Total				139	4	0	Or Say 139-4-0
III	Random rubble masonry in C.H. 1:4:8 = 100 cft					139	0	0	139-0-0
110 cft	Rough stone as per S.S. No. 22-A	16	0	0	100 cft	17	9	7	
"	Lead for Stone as above	28	12	6	"	31	10	7	
34 cft	Sand as above	2	8	0	"	1	3	3	
		47	0	0		50	1	7	

Data sheet to accompany the estimate for

Quantity.	Description of work.	Rate.	Per.	Amount.	Total.
		Rs. A. P.		Rs. A. P.	
	B.F.	—		50 1 9	
54 Rft	Land for Compound as above	13 8 0	"	4 9 5	
24 Rft	Compound as above	87 8 0	100 Rft	29 12 0	
"	Land for Compound above	30 12 6	100 Rft	2 9 10	
5 Nos	Mason 1st class	3 2 0	each	15 10 0	
4 Nos	Mate Mazdoor	1 8 0	"	6 0 0	
4 Nos	Women "	0 12 0	"	3 0 0	
34 Cft	Mixing mortar Sundries	4 8 0	100 Cft	1 8 6	
				0 3 3	
				0 12 6	
	Total —			—	Or Say
				114 0 0	114-0-0
IV	Supplying & fixing 2 1/2" dia Hume pipes with H.H.R. Collars at 1/2 —		48 Rft		
48 Rft	Cost of Hume pipe (3 Kinds) — Indian Hume Pipe Co.	10 3 6	2½	4 7 0	9 5 D Rate
	Conveyance from Coimbatore to Mangalore by Rail including freight charges —	2 2 0	Cft	102 — —	
				22 6 0	
4 Nos	Cost of Collars —	5 — 6	each	30 — —	
		5 — 9 6			
	Lead Joints with Collars 2½ H.H.R. with 1 Rft of Hume pipe Collars — — = 200 lbs				
	" 1 full Pipe of 8½" dia pipe } 160 lbs				
	1 Trip Carries 3 Nos 2½" dia pipes } 480 lbs				
	For 1000 lbs of S.H.H.R. = 2 - 6				
	5 chatti mixed @ 2 Rft = 5 - 10 - 0				
	" 4 Coolies @ 4 = 24 - 12 - 0				
	5 chatti mixed @ 2 Rft = 5 - 10 - 0				
	3 - 9 Coolies @ 4				
	Rs. 130 - 6 - 0			30 9 0	

Data sheet to

Quantity.	Description of work.	Rate. Rs. A. P.	Per.	Amount. Rs. A. P.	Total.
				645 4 0	
	B. F.				
L.S.	Fixing steel			12 0 0	
	Sundries			2 12 0	
	Total			660 0 0	or Say 660-0-0
	∴ per Rft.		660-0-0 / 48	=	13-12-0 or Say 13-12-0
V	Cement Concrete 1:3:6				
	Stone 3/4" gauge				
96 Cft.	Hand broken stone as per S.S 33 B			40 5 2	
"	Lead for stone as above			27 10 1	
48 Cft.	Sand as above			1 3 2	
"	Lead for sand as above			6 7 8	
87 8 0				56 0 0	
11 Cft.	Cement				
"	Lead for cement as above			4 11 10	
	Labour				
1/2 No.	Mason 1st class				
3 No.	Man Hangdwar				
4 No.	Women "				
48 Cft.	Mixing mortar			2 2 / 1 3 6	
	Sundries				or Say
	Total			152 0 0	152-0-0
VI	Gravel packing :- 10 Cft.			2 0 6	
116 Cft.	Gravel as per S.S 33 A			5 7 0	
	Lead 1/2 mile as above				
1 No.	Women			0 6 0	
1/2 No.	Women Hangdwar			0 0 6	
	Sundries				or Say
	Total			9-6-0	9-6-0

1/2 labour in S.S No 88 in Quick sand Work

Data sheet to accompany the estimate for

Quantity.	Description of work.	Rate.	Per.	Amount.	Total
	Cement	Rs. A. P.		Rs. A. P.	
	~~Hay~~ masonry 1:4 :- 100 cft				
100 cft	Sand as above	2 8 0	100 cft	2 8 0	
"	Sand lead as above	13 8 0	"	13 8 0	
2.5 cft	Cost of Cement as above	87 8 0		87 8 0	
		~~70 0 0~~	25 cft	~~70 0 0~~	
"	Lead for cement as above	30 12 6	100 cft	7 11 2	
100 cft	Hay masonry as above	4 8 0	100 cft	4 8 0	
	Sundries			0 0 10	
	Total			~~11 4 0~~	
				115 12 0	
VII	Plastering with cH 1:4				
	3/4" thick :- 100 Sqft				
7 cft	Cement mortar 1:4 as above	115 12 0	100 cft	~~8 1 8~~	
2 Nos	Bricklayers 2nd class	2 12 0	each	5 8 0	
1/2 Nos	Man Hangdaar	1 8 0	"	0 12 0	
3 Nos	Woman "	0 12 0	"	2 4 0	
	Sundries			0 4 4	
				~~Rs. 0 1 2~~	
	Total			16 14 0	For Say
					16-14-0
VIII	Rough stone dry packing for 12" thick & upwards :- 100 cft				
110 cft	Rough Stone as above	16 0 0	100 cft	17 9 7	
"	Lead for Stone as above	28 12 6	"	31 10 7	
1 No	Mason	3 0 0	each	3 0 0	
3 Nos	Man Hangdaar	1 8 0	"	4 8 0	
2 Nos	Woman "	0 12 0	"	1 8 0	
	Sundries			0 1 10	
	Total			58 6 9	or Say
					58-6-0

Certified that the hands furnished are correct to the best of my knowledge.

[illegible]
Asst. Engineer

Abstract Estimate.

The proposed Road from Kadangal to Kudamaluwa

Quantity. (1)	Description of work. (2)	Item number in the schedule of rates. (3)	Rate. (4) Rs. A. P.	Per (5)	Total. (6) Rs. A. P.	Amount. (7) Rs. A. P.
I L.S.	Earthwork excavation in soil & hill for foundation, filling in trenches etc				L.S.	50 - -
II 250 cft	Concrete in hard broken stone 1½" gauge in CM 1:3:6		139 0 0	100 cft	—	348 - -
III 830 cft	Random rubble masonry in CM 1:4		114 0 0	100 cft	—	946 - -
IV 4 Rth	Supplying & fixing H P ⅔ 2½" dia including 4 Nos of collars & bolts		13 12 0	Rth	—	660 - -
V ~~4 cft~~	~~Concrete 1:3:6 ¾" Single stone for footing ¼ Cum of stone & lime~~		~~150 0 0~~	~~100 cft~~	—	~~621~~
V 500 ~~700~~ ~~300~~ cft	Gravel packing on hth & pits		9 6 0	100 cft	—	47 - - ~~66~~ ~~46~~
VI 460 ~~650~~ ~~710~~ Sqft	Plastering with CM 1:4 ½" thick		16 14 0	100 Sqft	—	78 - - ~~143~~ ~~117~~
VII 350 ~~455~~ cft	Rough stone dry packing for aprons & wingwalls		58 6 0	100 cft	—	204 - - ~~265~~
~~VIII~~ VII L.S.	For one foreman charged on work of approach roads (as details of earthwork calculations sheet attached) & also for watch & guard			L.S.	—	479 - - ~~714~~
X L.S.	For Contingencies & petty supervision			L.S.	—	138 - - ~~171~~
	Supervision charges at 5 per cent.			Total	Rs.	2950/-
				Grand total, Estimate	..	~~3700~~ 2950/- ~~3500~~

Divisional officer (or other countersigning officer to be named).

Sanctioned for 19 -19

Collector or other sanctioning officer (to be named).

Signature and designation of the officer submitting this estimate.

D. C. Rangalam

C. P. K. 18/2/53

Tahsildar or other officer (to be named).

Specification.

C.F. 150 (2)—3,42,946—28-9-50.

District South Kanara

Taluk Mangalore

Village No. Bikampadi

PROJECT EXECUTIVE OFFICE
23 FEB 1953
MANGALORE

Name of Work No. :- Construction of the proposed Hume pipe culvert at 0/+325' of the proposed Road from Kadangal to Kudumbur.

ESTIMATE ABSTRACT.

Budget head

Main head

Sub-head

Amount of estimate Rs ~~3400~~/- 2950/-

Sanction number and date

To be carried out by Community Project, S.K.

District South Kanara. Taluk Mangalore.

Village and Survey Bikarnpadi. Date and cost of original construction

Name and number of work :- Construction of 1'-0" dia Hume pipe Road culvert Date and cost of last repairs
at 0/3; 0/3+4'36'; 0/5+18'6"; & at 0/5+43'6" of the proposed Road from 1st 9/10 to
of Kadangal to Kudumbur.

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
I Earth work in excavation in all soils for foundations etc	—	—	—	—	L.S.	L.S.
II Concrete in hard broken stone 1½" Size in C.H 1:3:6 :- for foundation of 4 nos of Head & tail wall of culvert at respective reaches	2×4	5'-6"	3'-0"	0'-6"	66 cft	70 cft or Say 70 cft
III Supplying & fixing H.P of 1-0" dia including 2 nos of collars each :- at Site	1×4	18'-0"	—	—	72 Rft	72 Rft or Say 72 Rft
IV P.T.O.						
V Concrete 1:3:6 of ½" Size Jelly for packing for binders at inlet; at the junction of the pipes & at the outlet side of the pipe	4×2	1'-6"	1'-4"	0'-9"	12 cft	
Deduct for :- pipe opening	4×2	11×1'-2"×1'-2" / 4		0'-9"	6 cft	
Net total less deduction				12-6 = 6	6 cft	6 C ft or 6.5 cft
VI Rough Stone dry packing for aprons & wingwalls						
Sides of earth bank at the inlet side	2×4	2'-6"	1'-9"	1'-0"	35	
— do — on the outlet side	2×4	2'-6"	1'-9"	1'-0"	35	
paving at outlet & inlet side	2×4	2'-6" / 2'-0"	2'-0"	1'-0"	32	
				Total	102 cft	100 cft or Say 100 cft
VII For unforseen items such as cutting the leading drain etc & extra rough stone dry packing required etc	—	—	—	—	L.S.	L.S.
VIII For Petty Supervision & Contingencies	—	—	—	—	L.S.	L.S.

(P.T.O)

J.E

27/2/53.

A.M. Mavinkurve
S.O. Mangalore
C.P.S.R.
1/3/53

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
Random rubble masonry in C.M 1:4						
Head & tail wall 1st footing	2×4	4'-6"	2'-0"	1'-0"	72	
— do — 2nd footing	2×4	4'-0"	1'-6"	2'-6"	120	
Parapet portion	2×4	3'-9"	$\frac{0'-9"+0'-6"}{2}$ Total	1'-0"	19	
					211 c.ft.	~~or say 210 c.ft.~~
Deduct for:						
Pipe opening	4×2	$\frac{\pi \times 1'-2" \times 1'-2"}{4}$		×1'-6"	13	
Net total less deduction		—	—	—	198 or Say 200 c.ft.	

0/3 : 0/3 + 436' ; 0/3 + 186' + 0/0 + 436' of the proposed Road from
0/0 + 400' of Kadangal to Kadumanur.

Abstract Estimate

S.P. No. 105

Quantity. (1)	Description of work. (2)	Item number in the schedule of rates. (3)	Rate. (4)	Per (5)	Total. (6)	Amount. (7)
			Rs. A. P.		Rs. A. P.	Rs. A. P.
I 1 S	Earth work Excavation in all soils for foundation etc				1 S	50 - -
II 70 cft	Cement concrete 1:3:6 (Rate adopted as per A.P. Schedule at 0/0 + 325' of the above road)		139 - -			97 - -
			139 - 0	100 cft		
III 72 Rft	Supplying & laying Class A Hume pipes & fixing & same at Socket & spigot Collars		6 0 0	Rft		432 - - Local no
IV 200. 220 cft	Random rubble masonry in Cement 1:3:6		114 0 0	100 cft		228 - -
60 cft 135 cft	Cement 1:3:6 1:3		152 - 0 - 0	11		9 - - 23 - -
	Jelly for packing. (Rate adopted as per A.P. Schedule at 0/0 + 325' of the above road)		135 - 0	100 cft		
V 100 cft. 100 cft.	Hard Rough stone dry packing for aprons & revetments		5-8 0 0	50 cft		5-8 - - 47 - -
						5-0 - - 10-4 - - 20-4 - -
VI 1 S	Cross drains such as Cattle pipe packing drain & Extra rough stone dry packing		1 S			12 - - 10 - -
VII 1 S	Petty Supervision & Contingencies		1 S			46 - -
						970 - -
	Supervision charges at 5 per cent.					
	For 4 Nos of 0/0 + 100' chs p.p. culverts				Grand total, Estimate Rs.	970 - - 980 - -

Divisional officer (or other countersigning officer to be named).

Signature and designation of the officer submitting this estimate. A.E.E. C.P.S.Q.

Sanctioned for 19 -19 .

27/2/53

Collector or other sanctioning officer (to be named).

Taluk officer or other officer (to be named).

PROJECT EXECUTIVE OFFICE
23 FEB 1953
MANGALORE

District South Kanara.

Taluk Mangalore.

Village No. Bikampadi.

Name of Work No. :- Construction of 1'-0" dia Hume pipe Road culverts at 0/3; 0/3+436'; 0/5+186' and at 0/5+436' of the proposed Road from 0/0+40' of Kadangal to Kudumbur

ESTIMATE ABSTRACT.

Budget head

Main head

Sub-head

Amount of estimate Rs ~~850/-~~ 930/- ~~970/-~~

Sanction number and date

To be carried out by Community Project Sec.

Name of work:- Formation of the Proposed earthen Road from 37/W Kadangal
to Bikampadi to Kudumbur.

General Abstract.

		Amount
1) Formation of the proposed earthen road from 0/0+400' of Kadangal to Kudumbur	Rs	1150 ✓
2) Construction of 2-6" dia Hume pipe road drain at 0/0+100' of the proposed road from Kadangal to Kudumbur	Rs	500 ✓
3) Construction of the proposed Hume pipe culvert at 0/0+325' of the proposed Road from Kadangal to Kudumbur	Rs	2950 ~~3000~~ ~~3400~~
4) Construction of 1-0" dia Hume pipe Road culvert at 0/3+436'; 0/5+186' & at 0/5+436' of the proposed road from 0/0+400' of Kadangal to Kudumbur	Rs	970 ~~980~~ ~~850~~
Total		~~5966~~ ~~5570~~ ~~6304~~

Rupees ~~six~~ five thousand & ~~seven hundred~~ five Hundred ~~only~~ &
~~eleven~~ forty only.

Bhagavanadas Rao
7.E 27/2/53

MTR Ramakrishn
S.O. Hang
Community P
S.E. 19/2/

Scanned with CamScanner

Technical Scrutinised.
S.M. Samuel
T.A:53
Supervisor (CP)

1. Hume Pipe Culvert of 2'-6" dia: at 0/0+100'	Rs 500/-
2. Hume pipe Culvert with 1 pipes of 2'-6" dia: each at 0/0+325'	Rs 2950/-
3. Hume pipe culverts 1'-0" dia: 4 Numbers at 0/3; 0/3+436; 0/5+186' and 0/5+436'.	Rs 970/-
Total	Rs 4420/-

Sanctioned for Rs 4420/- (Rupees Four Thousand four hundred and twenty) only.

O/C. Lee
9/4
For D.C.P.

T.A:53 9/4 9.4.53